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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/575,313	09/21/2006	Thomas Friedlaender	30071/41841	3782

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EXAMINER	
TISCHLER, FRANCES	
ART UNIT	PAPER NUMBER
1796	

MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/575,313	FRIEDLAENDER ET AL.	
	Examiner	Art Unit	
	FRANCES TISCHLER	1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 September 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7,12 and 13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4-7* is/are rejected.

7)☒ Claim(s) *3,12 and 13* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/16/09 has been entered.

This office action is in response to the amendment filed 8/3/09. Claim 1 has been amended. Claims 8 - 11 have been cancelled. Claims 1 – 7, 12 and 13 are now pending.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Step (a) claims that the plastic is pure, but step (c) claims that a decontamination is performed, implying the plastic was not pure as claimed in step (a).

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 102

Claims 1, 2, 6, and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Robinson et al (US 6,376,563).

Robinson discloses (abstract, figure 1A) a method of reprocessing used PET beverage bottles where the bottles are shredded into flakes and chunks, reading into applicant's claim 1a). The flakes are derived from the thin wall portion of the bottles while the chunks are derived from the thick neck portion of the bottles (6:24 – 31). The shredded material is subjected to a floatation segregation process, which separates foreign plastic flakes, such as polyethylene or polypropylene plastic flakes, that may be present with the PET flakes, by bulk density techniques (6:31 – 38), reading on applicant's claim 1b) and claim 2 of sorting plastic flakes. The PET flakes and chunks are then subjected to a wash cycle within a caustic solution to remove other impurities, subjected to another floatation segregation to remove those impurities and then dried (6:39 – 62), reading on applicant's claim 1c) of industrial treatment and decontamination treatment.

The thin flake portion is further decontaminated by cycling nitrogen gas during a solid state polymerization treatment where the nitrogen reacts with the flakes so as to extract acetaldehyde, ethylene glycol, etc. (9:46 – 58), thus reading on Applicant's claim of a decontamination treatment of an industrial reprocessing treatment for each of at

least two partial quantities, where said thin flake decontamination with nitrogen gas reads on a second partial quantity and the wash cycle decontamination of the flakes and chunks read on a first partial quantity, where said partial quantity is the result of the plastic separation of PET from other plastics.

The thick and denser chunk portion/neck of the shredded bottles and the thin flake portion/wall of the shredded bottles are separated with a Forsberg Destoner (www. Forsbergs.com), which works upon vibrational and fluidization, air classifier, principles whereby separation occurs between the more and the less dense materials (8:24 – 51), reading on applicant's claims 6 and 7.

Robinson is silent on the percentage of thick and thin materials that are separated, as claimed by applicant in claims 3, 12 and 13. However, since Robinson uses the same technique of separating the thick and thin particles of waste PET bottles as claimed applicant, the % separation achieved is inherently the same as claimed by applicant. Since the PTO does not have proper means to conduct experiments, the burden of proof is now shifted to applicant to show otherwise. In re Best, 562 F.2d 1252, 195 USPQ 430 (CCPA 1977); in re Fitzgerald, 205 USPQ 594 (CCPA 1980).

Claims 1, 2, 4 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Van Erden et al (US 6,288,131).

Van Erden discloses (abstract, figure 1A) a method of reprocessing used PET beverage bottles where the bottles are shredded into flakes and chunks, reading into applicant's claim 1a). The flakes are derived from the thin wall portion of the bottles

while the chunks are derived from the thick neck portion of the bottles (5:36 – 40). The chopped material is subjected to a floatation segregation process, which separates foreign plastic flakes, such as polyethylene or polypropylene plastic flakes, that may be present from the PET flakes by bulk density techniques (5:40 – 47), reading on applicant's claim 1b) and claim 2 of sorting plastic flakes. The PET wall flakes and the neck chunks are then passed through a pair of flattening rolls, which permit the wall flake portion to pass through the nip of the flattering rolls undisturbed while flattening the neck chunk portions. Van Erden discloses that said process alters the chunk portions to resemble the wall flake portions (6:58 – 63), which is equivalent to applicant's claim 4 of re-shredding of the thick walled parts since in both cases the thick walled portions are made smaller to resemble the thin walled portion. Afterwards, the thin and flattened flakes are combined, reading on Applicant's claim 5 of combining the two portions. The flakes are further processed by air blasting, by heating and by solid state polymerization, reading on a decontamination treatment. Particularly, heating is done to remove water (a contaminant) from the plastic flakes (6:43 – 57), reading on Applicant's decontamination of one partial quantity of claim 1 c). The PVC flakes are then separated from the PET flakes, and the PET flakes undergo further reprocessing treatment of solid state polymerization where the PET flakes are mixed with cycling nitrogen gas which purifies said PET from contaminants such as EG, acetaldehyde, etc.(8:23 – 45), reading on Applicant's decontamination of a second quantity of claim 1c).

Claim Rejections - 35 USC § 103

Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Robinson et al (US 6,376,563) in view of Van Erden et al (US 6,288,131).

Robinson's and Van Erden's disclosure is discussed above and is incorporated herein by reference.

Robinson discards the thick walled/neck particles of PET, the reason for which being that these non-crystalline particles react slowly, if at all, within the solid state polymerization process in connection with building up the intrinsic viscosity of the materials being processed. They also form clumps upon heating and jam the feeder or other components of the apparatus (7:64 – end, 8:1 – 31). Van Erden discloses the same method of reprocessing used PET bottles but flattens the thick walled particles to the size and shape of the thin walled particles for the same purpose claimed by Applicant of having them behave like the thin walled flakes for the purpose of sold state polymerization (6:58 – end, 7:1 – 11). Therefore, it would have been obvious to one of ordinary skill in the art to have replaced Robinson's method of discarding the thick walled particles with Van Erden's method of flattening them to resemble the thin walled particles for the same purpose of having particles of uniform size and density to go through solid state polymerization by reacting well and timely and not causing side effect such as clumping or clogging of the apparatus being used for the solid stating.

Allowable Subject Matter

Claims 3, 12 and 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The reason for said allowable subject matter is that the prior art fails to disclose that the decontamination is done on the thick and thin PET flakes separately.

Response to Arguments

Applicant's arguments filed 8/3/09 have been fully considered but they are not persuasive.

Applicant submits that the sorting in step 1 b) is done on pure PET flakes, while Robinson discloses sorting of PET from PE, PP, paper, etc.

Applicant's argument is no convincing: Applicant claims "pure plastic flakes" not "pure PET flakes" in claim 1a) and subsequent claims. The PE or PP that Robinson sorts out from the PET are also plastics and thus read on Applicant's claim of sorting plastics. It is pointed out that it is not clear why pure plastic flakes are subsequently decontaminated if they are already pure.

Applicant claims that Van Erden's segregation happens at a very early process, not used in the present application.

Applicant's argument is not convincing: Van Erden segregates PE, PP flakes from PET flakes, which reads on Applicant's claim of sorting plastic flakes.

Applicant submits that Van Erden's process takes place with PET and PVC flakes, while the present application has no plastics other than PET.

Applicant's argument is not convincing: as discussed above, independent claim 1 claims plastic flakes, not PET flakes. Plastic flakes include any plastic, including PVC. Additionally, Applicant's open language of "comprising" allows for additional steps, such as Van Erden's step of heating the flakes until the PVC turns brown and then separating the PET from the PVC as a result of said process.

Applicant submits that neither Van Erden nor Robinson disclose a method where pure PET particles are divided into at least two partial quantities and each partial quantity is treated with a decontamination process.

Applicant's argument is not convincing: the discussion on pure PET/pure plastic is presented above. Regarding the decontamination of two partial quantities: claim 1 broadly claims (a) shredding pure plastic flakes, (b) sorting by a criterion into two partial quantities, where the criterion is not defined, and (c) performing a decontamination treatment on each of said partial quantities. Both Robinson and Van Erden satisfy the claim, since both (a) shred plastics, (b) sort the plastics by more than one criterion such as floatation segregation, and (c) perform a reprocessing treatment of decontamination (such as caustic washing, air blasting, heating) on the thin and thick flakes as one

partial quantity after removing PP, PE or PVC from the original quantity, and then perform a reprocessing treatment on the thin flakes alone as another partial quantity (such as heating, nitrogen circulation, solid stating).

Applicant submits that Robinson removes the thick chunks and does not decontaminate it separately from the thin flakes; that Van Erden flattens the chunks and decontaminates them together with the thin flakes, unlike the present invention that claims decontaminating the think and thin flakes separately.

Applicant's arguments are convincing. Claims 3, 12 and 13 are, however, objected to because they depend on rejected claim 1 which does not specify that (1) the flakes only contain PET, (2) that the sorting is done to separate the thin and the thick walled parts of the PET, (3) that the reprocessing treatment is done specifically on the thin and the thick portions and that they are done separately.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to FRANCES TISCHLER whose telephone number is (571)270-5458. The examiner can normally be reached on Monday-Friday 7:30AM - 5:00 PM; off every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jim Seidleck can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ling-Siu Choi/
Primary Examiner, Art Unit 1796

Frances Tischler
Examiner
Art Unit 1796

/FT/